

Release To Reorganization: A Case Study Of Indo-Gangetic Plain During 1700 Bc To 1200 Bc.

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An important debate in Indian archaeology revolves around the questions such as what happened after the collapse of 'Harappan Civilization' or where those people went, when did the classic Harappan traits from the pottery, bead, seal and town planning disappear. Archaeologists gave different explanations and answers to these questions. For a long time, archaeologists have made various attempts to find a possible explanation for the problem such as Aryan invasion, flood, climate change, economic and administrative disintegration. J.P. Joshi put another theoretical answer of interlocking phase between late Harappa and Painted Grey Ware culture forward after the excavation of sites like Bhagwanpura, Dadheri, Katplalon, and Nagar. Preceded by small interlocking phase traits of late Harappan culture disappeared from these sites.

The purpose of this paper is not to explore what, where, and when the decline of Harappan civilization happened. The aim of this paper is to understand how it happened. Answer of this 'how' can be looked at in the collapse of the structure of Harappan civilization and the enigmatic interlocking phase. Theoretically, it is difficult to explain through the cultural norms actually what happened after the collapse and interlocking phase at Bhagwanpura and other sites.

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RELEASE

Theoretically, release (Faulseit, 2016) is defined as a phase of rapid, creative destruction, decline, abandonment and the chaotic unraveling and release of resources. However, different scholar used the different term for this phase such as tipping points (Gladwell 2000), critical transition (Scheffer 2009), and collapse (Renfrew 1984, Tainter 1988 and Diamond 2005). In the present paper, authors view release as a socio-political collapse of Harappan civilization. In order to understand the problem of release or collapse it is essential to identify what are the factors leading to the collapse of a complex society and its aftermath. The theoretical collapse of a complex society is a process of failure of social, political, economic and religious institutions of its civilization. As Renfrew (1984: 367-69) described four main features of the system of collapse such as:

A collapse of the central administrative organization of the early state

- The disappearance of traditional elite class:
- A collapse of the centralized economy:
- Settlement shift and population decline.

On the contrary, Tainter (1988) viewed collapse as a political process. Furthermore, he described the modes of collapse as:

- A lower degree of stratification and social differentiation.
- Less economic and occupational specialization, of individuals, groups, and territories.
- Less centralized control, that is less regulation and integration of diverse economic and political groups by elites.
- Less behavioral control and regimentation.
- Less investment in the epiphenomena of complexity, those elements that define the concept of civilization: monumental architecture, artistic and literary achievement, and the like.

- Less flow of information between individual, between political and economic groups, and between a center and its periphery.
- Less sharing, trading, and redistribution of resources.
- Less overall coordination and organization of individuals and groups and a smaller territory integrated within a single political unit.

As the parameters put forwarded by Renfrew and Tainter on the theories of collapse, here in this paper I will make an attempt to look at the situation of the second millennium BC in the Indo-Gangetic plain.

I

During the second millennium BC, in the Indo-Gangetic plain, there has been a major breakdown of regional uniformity and centralized control. This was observed in the decline of central administration, disappearance of homogeneous material culture, craft specialties (metallurgy, lapidary work, pottery, etc.), specialized public architecture (defense wall, granaries, great bath, etc.) literacy, and grid –patterned urban centers. In urban centers the standardization of street frontages declined, brickwork was less careful with reuse of older bricks, expressive art became simpler, less public and large domestic buildings and drainage systems became absent, seals, hoards of jewelry were stashed away. The material culture from late phase at Harappa (Vatas 1940), Mohenjodaro (Marshal 1931), Lothal (Rao 1973), and Dholavira (Bisht 1990), Banawali (Bisht1978) clearly demonstrates the breakdown of central authority which controlled civil government. The late Harappan level of Mohenjodaro showed squatters houses were built over the granary and in citadel area without any municipal regulation and planning (Marshal 1931). Similar evidence was also found from Stage VI of Dholavira. In this phase, late Harappan people ransacked stones from older structures. The layout also differed drastically. A new system of streets, ways, and housing sectors were introduced. Their houses were normally found raised right against the earlier fortification walls of the citadel (IAR 1991-92:30). The decline in administration was also reported from the late

Harappan phase of Banawali, where refuse and hearths were dug into the defense wall itself (Bisht 1974-77).

II

The elements of the traditional elite class were disappeared during the late Harappan period. The abandonment of rich residential units was noticed during the late Harappan period in cases of citadels or public buildings situated near the apex of the mound, for example, the large bath, stadium, etc. Even indivisible largely planned houses with courtyard, well, kitchen and bathroom were abandoned in the late phase at sites like Harappa, Mohenjo-Daro, Dholawira, Surkotda, and Lothal. Similarly, other material cultures related to elite class like imported gold and stone jewelry were not reported frequently from these sites.

III

The evidence of economic collapse can be observed from a gradual decline in metal and stone craft was reported from many sites such as Rangpur IIB-C, Lothal B, Bhagwanpura, and Dadheri. In this phase copper became scarce and market exchange suffered a great deal (Rao, 1982: 414). This was also evident from the late Harappan phase of Lothal. At Lothal period B one workshop of copper-smith was identified by the excavator which gives the evidence of a number of coppersmiths working under a single roof (ibid). Rao argued the "flat celt" of Harappan types continued to be produced by the Late Harappan at Lothal, Rangpur, Somnath, and Rojdi. On the whole, it can be said that metal technology did not suffer in quality though the number of tools and ornaments produced declined sharply. In phase V of period B of Lothal coppersmiths depended on a middleman for supply and marketing of goods. The initiative which lay with the individual craftsman to sell goods was lost in the Late Harappan phase, as long-distance trade declined (ibid). The late Harappan period marks the breakdown of long-distance trade specifically between the Indus valley and the northwest, as well as the southern coastal regions (Piggott 1950; Dales 1964; Thaper 1966; Wheeler 1966; Allchin and Allchin 1968; Gupta 1982). After the collapse of long-distance trade network, Harappan craftsmen

moved from the major towns to the distant area where raw material could be easily obtained and the locally available stone could be easily used for making blades, beads, and weights. All these points towards economic breakdown.

IV

The other factors for the collapse of the Harappan civilization were the migration of population from the core area of Harappan civilization to parts of Gujarat, Punjab, Haryana, and western Uttar Pradesh. Recent work of Manmohan Kumar (2009) on Harappan settlements in Haryana showed that there were 241 sites of early Harappa, 96 sites of Mature Harappa and 842 sites of late Harappa. Out of which 661 (80%), late Harappan sites were inhabited for the first time in this phase. Data shows a large-scale population movement into the Ghaggar- Yamuna plain. On the other hand in the Cholistan region, R. Mughal (1997:51) has noticed a decline in the number of late Harappan sites. So possibly there was a migration of population from the Cholistan region. Different exploration led to the identification of Late Harappan migration or human dispersal has also come from western Uttar Pradesh, i.e. 134 late Harappa site has been discovered in this region itself (Charabarty et al, 2006, Dikshit,) and 71 late Harappan settlements have been reported from Punjab (Madhubala 1978: 89-118) Similar evidence were also subjected from Kuchh, Saurashtra, Sind (Ghosh 1980), and Tapti valley (Sali 1980).

Briefly during the second millennium BCE, a substantial decline in the socio-economic and political scenario as evident in ceramic style, motifs, associated ware, food habits, disposal of dead, trade, technology, social and religious belief and other remains of material culture.

AFTERMATH

What happens after the collapse of complex societies from the essential question of this article? Renfrew (1984:368-369) described the scenario after the collapse of societies such as, once again emergence of segmentary stage, lower level of sociopolitical integration, smaller territories in relate to earlier polities, survival of religious element as folk cult and belief, local

movements of small population group, destruction of settlement, regeneration of chiefdoms society.

I

After the collapse of Harappan civilization, the remaining traits of culture went back to the segmentary stage as noticed previously, thousand years before in Baluchistan, Sind, Punjab, and Haryana regions. New style and motifs of painted pottery and the inclusions of these pottery vessels in distinctive pot burials in post-Harappan time suggest that the Late Harappan had significantly different beliefs from the mature Harappan population. The uniformity of Harappan pottery styles, selection of motifs, burial practices, and beads by this time had completely disappeared. These new ceramic patterns could indicate that Late Harappan emerged into indigenous communities in the different geographical region of Indo-Gangetic plain and engaged in the synthesis of local and non-local elements.

II

After the collapse of Harappa four major sub-regional late Harappan culture, like Jhukar, Pirak, and Cemetery H, Bara, and Lusterware of Rangpur emerged in the deferent geographical region(Fig.1), partly influenced by the remains of the predecessor (Shaffer 1991). Once again these cultures grew in indigenous socio-political unites in small regional territories. Jhukar cultural tradition was identified in southern Indus region at the sites of Jhukar (Mughal 1992), Mohenjo Daro, Chanhu Daro and Amri (Fairservis,1971: Appendix F). It is identified on the basis of distinctive pottery with black painted designs on red and cream slip, and distinctive geometric stamp seals. In further east in the Kachi Plain in Baluchistan another late Harappan culture 'Pirak' emerged, which can be dated from 1700-700 BC (Jarrige and Santoni 1979) or 2000- 1300 BC (Shaffer 1992). Many of the architectural and even pottery styles from these cultural traditions appear to reflect indigenous cultures that had been in the region since before the Harappan period. Pirak culture was restricted to the Kachi Plain and Baluchistan and did not spread far beyond, to other sites in the Indus Valley. In the northern Indus Valley, particularly

the isolated valleys of Swat, Dir, and Chitral, the Gandhara Grave culture (1700- 200 BCE) developed, represented by small settlements and associated cemeteries (Stacul 1984).

Lustrous Red Ware evolved in Gujrat region, which was being used along with Harappan pottery during the final stages of the Harappan culture. This ceramic tradition continued till 1400 BC (Sonawane 2002). Taking into consideration the Late Harappan settlement patterns in Gujarat, changes in material culture reflects a gradual breakdown of the Harappan state organization, while the integration of lustrous red ware signifies a change in the socio-political power. Another major late Harappan culture, Cemetery H evolved in east Punjab or Bahawalpur region, where a cluster of 50 Cemetery –H sites were discovered by Mughal (1982:93). In West Punjab and Haryana region, Bara culture evolved as the late Harappan culture. In western Haryana, northern Rajasthan, and western Utter Pradesh Ochre colored pottery has been identified in late Harappan phase with some regional influence.

III

After the collapse, the evidence appears to favor the theory of 'Past Association' which suggests emotional attachment to the region of a group of people where they once had lived and may once again bring them to the back (Gupta, 1993:53). Many Late Harappan survivors once again reoccupied early Harappan sites which were abandoned during the Mature Harappa period in Sind, Cholistan, Punjab, and Haryana. A recent study in Haryana shows that there are 241 Early Harappan sites of which 96 were re-occupied by Late Harappan people (Manmohan, 2009, list1). This phenomenon is also noticed in pottery designs, for example, many early Harappan pottery symbols appeared in Late Harappan pottery.

REORGANIZATION OF INDO-GANGETIC PLAIN

This is the phase of reorganization into a 'degraded state' which is a process known as a poverty trap, or a more dramatic regime shift into an entirely new form of the system, with an entirely different identity (Holdling and Gunderson 2002; Scheffer 2009; Walker and Salt 2006).

After the collapse of Harappan civilization Indo-Gangetic plain was once again inhabited, and there was an evidence of rapid growth of local society. As the evidence came from Bhagawanpura and other many late Harappan sites, with an interlocking phase a different culture emerge as a new socio-economic power in this region. This was the situation in all Indo-Gangetic plain after the collapse of Harappan civilization when there was a re-emergence of larger regional culture in this period called the Painted Grey Ware Culture.

Painted Grey Ware culture was first discovered in 1940-44 at Ahichhatra (Ghosh and Panigrahi, 1946) in the lowest stratigraphic levels and was tentatively assigned pre 300 BC date along with other enigmatic wares and no separate horizon was assigned to it. However, its full importance was realized in 1952-53 after the excavation of Hastinapura (Lal 1954-55). The explorations that followed reported many sites yielding Painted Grey Ware in Punjab, Haryana, North Rajasthan, Western Uttar Pradesh i.e. in the Indo-Gangetic Plain and Upper Ganga Plain. Physically the region is bounded by the Sutluj/ Hakra (Lal, 1950) on the west and the Aravalli range in the south; the Chambal (Banerjee 1957: 24) in the southeast and the Himalayas in the north. Later explorations have brought to light more than 1000 PGW sites. So far about four dozen sites belonging to this culture have been excavated from 1940.

Theories like the association of painted grey ware with Mahabharata, Aryan migration and later Vedic age have been associated with origin and distribution of PGW culture. It was dated (C14) 1150 BC from Atranjikhera, 1600 BC (TL) from Bhagwanpura and recently 2000 BC from Mathura and Kampil. The pioneer archaeologists and historians of India such as H.D. Sankalia, A. Ghosh, B. B. Lal, and R.S. Sharma associated PGW culture with Aryan race and put forward the theory of migration of PGW from west to east. Dr. Joshi after the expansive exploration in Sutluj and Sarasvati valley and couples of excavation like Bhagwanpura, Dadheri, Katplalon, Nagar, and Madina has also sported the theory of western migration. Interlocking phase in between late Harappa period and PGW has first come to light during the excavation of Bhagwanpura from period IB (Joshi, 1975). As the excavator argued, "there is no break between sub-period IA and IB. Period IB is marked by the continuous occupation of the late

Harappan culture and the arrival of Painted Grey Ware using people " (Joshi, 1975). Excavator also noticed that late Harappan phase underwent a slow and gradual decline of its pottery especially in the late levels of the Sub-Period IB. Similar evidence was found from Dadheri, Katplalon, Nagar, and Madina by the excavator, Joshi where traits of late Harappan phase gradually declined and that of Painted Grey Ware tradition increased. More recently Prof. R.N.Singh and Prof. Manmohan Kumar (2009) have suggested similar evidence from Alamgirpur in western U.P. and Madina in Haryana.

However, the present author has discarded the theory of western migration of PGW and attempts to prove, it was the indigenous culture of Ganga Plain, who spread across east to west (Singh et-al 2014). The accomplishments of PGW culture are the use of iron and large-scale cultivation of rice in upper Ganga plain, innovation of glass technology, on large and complex size political distribution of settlements (Singh et-al 2014), trade of iron, copper, and all semi-precious stone on the large scale.

SOCIOECONOMIC RESILIENCE AND ADAPTATION AFTER COLLAPSE

New social, religious, economic and political system redeveloped during this period. There are evidence of controlled trade system, exchange system, technology, advance agriculture and animal husbandry and population growth of PGW culture. A large number of crops, agricultural tools and animal remains recovered from PGW sites such as Hastinapur, Atranjikhhera, Jakhera, Bhagwanpura, Abhaypur, and Madina. The craft organizations associated with iron tools, copper tools, semi-precious stone and glass bead industry, bone tools and pottery industries have been recovered from Atranjikhhera, Jhaker, Hastinapur, Noh, and Abhaypur. However, a very little work has been done to identify the source area of acquiring trade resources during PGW cultural phase. Source material, however, exists in varying degrees in the neighboring Himalayan regions of Kangara, Mandi, Almora, Garhwal, in the Aravalli terrain of Alwar, Jaipur, Bharatpur in Rajasthan and in the Gwalior region immediately south of the Chambal.

During this phase, several industries were identified such as precious stones in large number, the glass bead industry, bone tools industry and pottery manufacturing industry, agricultural crop etc. For the industries, the inhabitants must have been procuring materials from three different source areas. In the Sarasvati plain, late Harappan used locally available dominated raw material copper from the Aravalli and faience, clay, and local cherts (Kenoyer, 1995: 227, Randal 1996). The copper resources of the Aravallis also continued to be utilized by late Harappan or inhabitants of OCP in western Uttar Pradesh, (Agrawala 1974). The major iron sources exploited during the PGW phase would have been those in the northern Aravallis and close to the important sites of Mathura, Noh, Bairat, Indrapat (Delhi), etc. (Kenoyer1995; 231). From my previous analysis, I would like to present PGW people followed the same trade route for their procuring resource allocation such as copper and stone (Singh et-al 2014). Similarly, inhabitants of PGW culture took hold of agricultural land of Sarasvati valley. As we saw in Bhagwanpura and other sites late Harappan gradually evolved and upgraded to PGW culture after the clashes over the resource.

Some new social and religious adaptation also appears after the overlap phase between late Harappa and PGW culture. However, some common motifs of Harappan and late Harappan were copied by PGW peoples after the overlapping phase such as the pattern of the concentric circle, intersecting circles, net designs, honeycomb designs, fish scales, maltese cross, intersecting circles and petalled flower in ceramics. Similarly, some late Harappan pottery shapes such as bowls, basins, dishes, jar, and especially dish-on-stand were copied by PGW people in grey ware. But the most important social change in this period is that the Harappan 'tableware' such as dish on stand, bowl on stand and goblet etc were replaced by that of PGW only with different shapes of dishes and bowls in grey and painted with black color. On the other hand, late Harappan naturalistic motifs changed themselves into geometric symbols in the PGW ceramics; however, some symbols which were continuing through the Harappa age those are also geometric.

During the phase, PGW culture also introduced a new rank-size political system. In this phase, all settlements can be categorized into more than sixteen geographic clusters. Every cluster probably formed as a primary unit of administration. Several clusters formed a larger unit of administration which was governed by the regional political center (Singh et-al 2014).

Similarly, in associated ware such as the type of corroded ware, used earlier in the Chalcolithic culture of middle Ganga plain was reintroduced in PGW ceramic tradition. A strong influence of late Harappa remained in associated redware, grey ware and terracotta in following the culture of Sarasvati Plain which maintained its uniqueness. For example, corded red storage jar which is a distinctive pottery of PGW culture in Ganga valley is not common in ceramic assemblage of the post-Harappan culture of Sarasvati valley. Interestingly those composite pottery symbols like patterns of the concentric circle and semi-concentric circle which have some Harappan influence were commonly noticed in the post-Harappan culture of Sarasvati valley. Linear patterns are more common in Ganga plain. Black slipped ware and red ware was continuing but in different shape and size. Black and red ware were not now common. Now it was reported in a particular geographical region. PGW culture also imitated and followed few aspects of Harappan religious practices such as fire alter, tree worship and symbols such as pipal leaf and swastic

Another major adaptation is the innovation of new technology. PGW culture has the credit of innovation of glass and iron technology in Upper Ganga plain and Sarasvati valley. There is plenty of example of glass beads and bangles coming from PGW sites. Production of local manufacture of glass beads and bangles filled the deficiency of long-distance trade. Glass was used to make shiny red-orange beads imitating the looks of carnelian, a Harappan trademark. Faience was also used to make white beads and pendants that look very similar to a shell. Use of iron on the large scales for agricultural and weaponry also helped in the development and distribution of PGW culture. These technological innovations appear to reflect a creative environment and gradual replacement of contemporary late Harappan regional culture.

CONCLUSION

In the above four sections, I have made attempts to answer a few questions which were raised at the beginning of this article. The collapse of Harappan civilization as seen in several Harappan sites displayed a rapid loss of their established level of sociopolitical complexity after more than 2000 years of the continuation. Harappan Archaeologist gave both general and local causes of the collapse of Harappan civilization. In many case studies showed local changes of collapse in different Harappan regions such as failure of administration at Harappa, Mohenjodaro, Dholawira, and Massacre at Mohenjodaro etc. In general, most of the archaeologist agree on environmental changes such as the rapid or gradual shifting of river courses. There is plenty of evidence of the collapse of centralizing political administration from Harappa, Mohenjo-Daro, Dholawira, and other major urban sites. In the first section, I discuss several factors of collapse such as the breakdown of the economy, religious tradition, and elite class came from several Harappan sites. In so doing, I examine these factors did not occur on a local level, as they see. In all Harappan domains, Kulli, Sindhi, Sowthi-Siswal, Harappa, and Eastern in the similar time span from 1900 to 1700 B.C. or 1500 B.C. there are evidence of the collapse of a lower degree of stratification and social differentiation, less economic and occupational specialization, of individuals, groups and territories and centralized control. However, after the breakdown, there is evidence of integration of local level political administration with regional in all four domains. In Kulli domains Pirak culture replaces mature Harappan culture, however, some early and mature Harappan traits were continuous in the late Harappan period. In Sindhi domain, Jhukar culture takes place after the breakdown of Harappan culture. Similarly, in Harappa domain, Cemetery H, in Sorath domain late Sorath or Lustre redware and in the eastern domain, Bara culture replace the mature Harappan. In all domain, the abandoned of mature Harappan urban center and re-occupied of the early Harappan site and continuations of early and mature Harappan traits are a common phenomenon. However, in due to some environmental survival move to other regions, for example, Cholistan region from ware late Harappan move to Haryana region.

Another major issue is an interlocking phase of Bhagwanpur and other sites re-examine by the author in the present paper. It was seen by a mostly scholar as local phenomena on the site level. But it was a cultural act of resilience and adaptation after the collapse. In between 1700 to 1500 BC the late Harappan and PGW came in the contact in eastern Saraswati valley and western Ganga plain on both side of Yamuna river and its tributaries. After the contact of both cultures, the late Harappan culture was gradually dissolved and PGW culture takes place. But some late Harappan motifs, ware, and other material culture are continued with new elements in above mention region and Indo-Gangetic plain reorganized once again with a new culture, technology, social-economic and political system.

References

Allchin, F. R., 1990, The end of the Harappan Urban Phase and its aftermath. *Ancient Ceylon* 10: 25--40.

Indian Archaeology, A Review, 1990-1991, Archaeological Survey of India, Delhi, pp. 10-12.

Indian Archaeology, A Review, 1991-1992, Archaeological Survey of India, Delhi, pp. 126-135.

Bisht, R. S. (1978). Banawali: A new Harappan site in Haryana. *Man and Environment* 2:86-88.

Bisht, R. S. (1982). Excavations at Banawali: 1974-77. In Possehl, G. L (ed.), *Harappan Civilization: A Contemporary Perspective*, Oxford & IBH and the American Institute of Indian Studies, Delhi, pp. 113-124.

Dikshit, K. N. (1981). The excavations at Hulas and further exploration of the upper Ganga-Yamuna Doab. *Man and Environment* 5: 70--76.

Dikshit, K. N. (1982). Hulas and the Late Harappan complex in western Uttar Pradesh. In Possehl, G. L. (ed.), *Harappan Civilization: A Contemporary Perspective*, Oxford & IBH and the American Institute of Indian Studies, Delhi, pp. 339-351.

Faulseit K.R, (2016) Beyond Collapse: Archaeological Perspectives on Resilience, Revitalization, and Transformation in Complex Societies, Center for Archaeological Investigations, Occasional Paper No. 42, Carbondale,

Gladwell, Malcolm, (2000) The Tipping Point: How Little Thing Can Make a Big difference. Back Bay book, New York

Holling, C.S, Lance, H., Gunderson and D. Peterson, (2002), Sustainability and Panarchies. In Panarchy: Understanding Transformations in Human and Natural system, edited by Lance H. Gunderson and C.S. Holling : pp- 63-102, Island press Washington, DC.

Joshi, J. P. (1976). Excavations at Bhagwanpura. In Gupta, S. P., and Ramachandran, K. S., (eds.), Mahabharata: Myth and Reality, Differing I/mvs, Agam Prakashan, Delhi, pp. 238-239.

Joshi, J. P. (1978). Interlocking of late Harappa culture and Painted Grey Ware culture in the light of recent excavations. Man and Environment 2: 98-101.

Joshi, J. P. (1984). Harappa Culture: Emergence of a new picture. Puratattva 13-14: 51-54.

Joshi, J. P. (1993). Excavation at Bhagwanpura 1975-76 and Other Explorations and Excavations 1975-81 in Haryana, Jammu & Kashmir and Punjab, Memoirs of the Archaeological Survey of India 89, Delhi.

Joshi, J. P., Madhu B., and Ram, J. (1984). The Indus Civilization: A reconsideration on the basis of distribution maps. In Lal, B. B., and Gupta, S. P. (eds.), Frontiers of the Indus Civilization, Books and Books, Delhi, pp. 511-530.

Lal, B. B. (1979). Kalibangan and the Indus Civilization. In Agrawal, D. P., and Chakrabarti, D., (eds.), Essays in India Protohistory, D. K. Publishers, Delhi, pp. 65-97.

Marshall, J. (1931a). Religion. In Marshall, J. (ed.), Mohenjo-daro and the Indus Civilization, 3 vols., Arthur Probsthain, London, pp. 48-78.

Marshall, J. (1931b). Disposal of the dead. In Marshall, J. (ed.), Mohenjo-daro and the Indus Civilization, 3 vols., Arthur Probsthain, London, pp. 79-90.

Marshall, J. (1931c). Extent of the Indus Civilization. In Marshall, J. (ed.), Mohenjo-daro and the Indus Civilization, 3 vols., Arthur Probsthain, London, pp. 91-101

Mughal, M. R. (1982). Recent archaeological research in the Cholistan desert. In Possehl, G. L. (ed.), Harappan Civilization: A Contemporary Perspective, Oxford & IBH and the American Institute of Indian Studies, Delhi, pp. 85-95.

Mughal, M. R. (1990). The decline of the Indus Civilization and the Late Harappan Period in the Indus Valley. Lahore Museum Journal 3(2): 1-22.

Mughal, M. R. (1992). Jhukar and the Late Harappan cultural mosaic of the Greater Indus Valley. In Jarrige, C (r South Asian Archaeology 1989, Monographs in World Archaeology, Vol. 14, Prehistory Press, Madison, WI, pp. 213-222.

Mughal, M. R. (1997). Ancient Cholistan: Archaeology and Architecture, Lahore, Ferozsons.

Mughal, M. R. (1982). Recent archaeological research in the Cholistan desert. In Possehl, G. L. (ed.), Harappan Civilization: A Contemporary Perspective, Oxford & IBH and the American Institute of Indian Studies, Delhi, pp. 85-95.

Mughal, M. R. (1990). The decline of the Indus Civilization and the Late Harappan Period in the Indus Valley. Lahore Museum Journal 3(2): 1-22.

Mughal, M. R. (1992). Jhukar and the Late Harappan cultural mosaic of the Greater Indus Valley. In Jarrige, C in South Asian Archaeology 1989, Monographs in World Archaeology, Vol. 14, Prehistory Press, Madison, WI, pp. 213-222.

Mughal, M. R. (1997). Ancient Cholistan: Archaeology and Architecture, Lahore, Ferozsons.

Possehl, G. L (1982). The Harappan Civilization: A contemporary perspective. In Possehl, G. L (ed.), *Harappan Civilization: A Contemporary Perspective*, Oxford & IBH and the American Institute of Indian Studies, Delhi, pp. 15-28.

Raikes, R. L. (1964). The end of the ancient cities of the Indus. *American Anthropologist* 66(2): 284-299.

Renfrew, Colin, 1984, *Approaches to Social Archaeology*. Edinburgh University Press & Harvard University Press.

Rao, S. R. (1963). Excavations at Rangpur and other explorations in Gujarat. *Ancient India* 18-19: 5-207.

Rao, S. R. (1979). Lothal: A Harappan Port Town, 1955-62, *Memoirs of the Archaeological Survey of India*, No. 78, Vol. 1, Delhi.

Shaffer, J. G. (1982). Harappan culture: A reconsideration. In Possehl, G. L (ed.), *Harappan Civilization: A Contemporary Perspective*, Oxford & IBH and the American Institute of Indian Studies, Delhi, pp. 41-50.

Thapar, B. K. (1975). Kalibangan: A Harappan metropolis beyond the Indus Valley. *Expedition* 17(2): 19-32.

Tainter, Joseph, (1988) *The Collapse of Complex Societies (New Studies in Archaeology)*, Cambridge University Press.